Center Innovation Fund: JSC CIF

Flight Deck of the Future: Virtual Windows and e-textile iGear

Completed Technology Project (2011 - 2012)

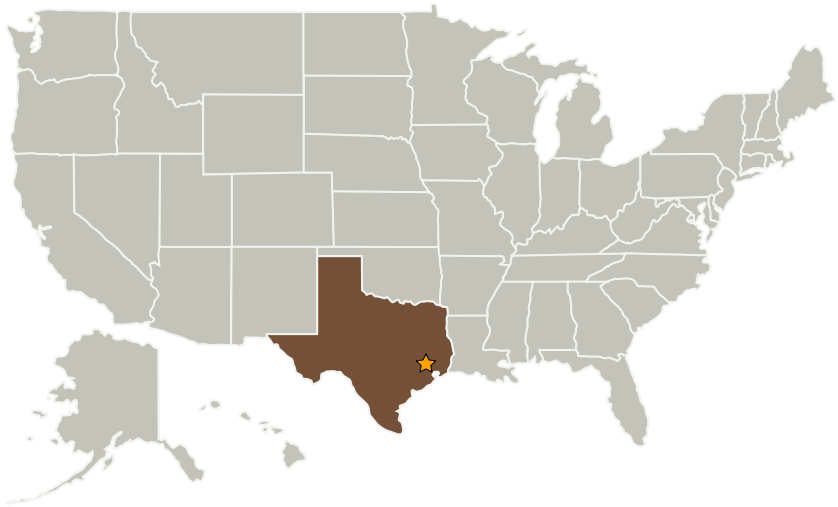
Project Introduction

The Flight Deck of the Future (F.F) will integrate interdisciplinary talent to design innovative, integrated human interfaces for the next generation of human spaceflight. Two research areas that are ripe for development and vetting through the F.F are Virtual Windows and Electronic Textiles (e-textile):
- Virtual Windows can significantly improve external visibility thereby greatly enhancing crew situational awareness, performance, and psychological health. This project includes integration of tiled displays, scene-stitching software, multiple cameras with real-time video imagery, and various camera control methods. - By putting interfaces on the body, wearable technology enables rapid access to information and controls, continuous physiological monitoring, and alarms for dangerous environmental conditions. This project includes design and development of an e-textile garment with integrated power, data network, and wireless communications.

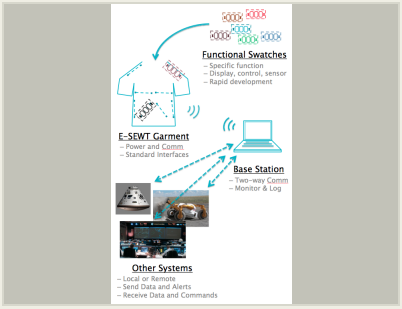
Anticipated Benefits

N/A

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Johnson Space Center(JSC)	Lead Organization	NASA Center	Houston, Texas



Project Image Flight Deck of the Future: Virtual Windows and e-textile iGear

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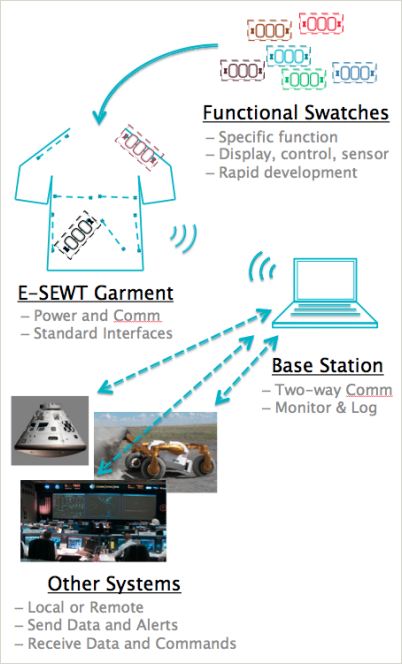
Primary U.S. Work Locations

Texas

Images



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Project Image Flight Deck of the Future: Virtual Windows and e-textile iGear
(https://techport.nasa.gov/image/2210)

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Center / Facility:
Johnson Space Center (JSC)

Responsible Program:
Center Innovation Fund: JSC CIF

Project Management

Program Director:
Michael R Lapointe

Program Manager:
Carlos H Westhelle

Project Manager:
Cory L Simon

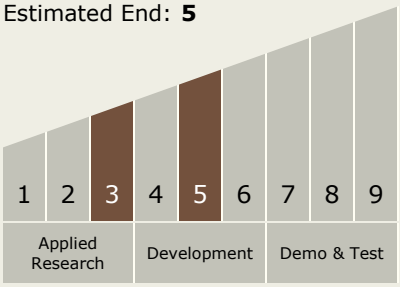
Principal Investigator:
Helen M Neighbors

Flight Deck of the Future: Virtual Windows and e-textile iGear

Completed Technology Project (2011 - 2012)

Technology Maturity (TRL)

Start: **3**
Estimated End: **5**



Technology Areas

Primary:

- TX11 Software, Modeling, Simulation, and Information Processing
  - TX11.2 Modeling
    - TX11.2.3 Human-System Performance Modeling